

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 96-177

WASTE DISCHARGE REQUIREMENTS
FOR
L AND D LANDFILL LIMITED PARTNERSHIP
FRUITRIDGE ROAD LAND CO.
L AND D LANDFILL
LIMITED CLASS III LANDFILL
SACRAMENTO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board), finds that:

1. The L and D Landfill Limited Partnership operates the L and D Landfill, Limited Class III Landfill. The property is owned by Fruitridge Road Land Co. (formerly known as Teichert Land Company). The facility operator and the property owner are hereafter jointly referred to as Discharger. The facility was previously regulated by Waste Discharge Requirements (WDRs) Order No. 92-215 in conformance with Title 23, California Code of Regulations (23 CCR), Division 3, Chapter 15 (hereafter Chapter 15). Order No. 92-215 was amended 17 September 1993 by Order No. 93-200 implementing State Water Resources Control Board Resolution No. 93-62 and federal municipal solid waste regulations. The Discharger submitted a Proposed Monitoring Program and Water Quality Protection Standards contained within a Report of Waste Discharge dated 19 April 1996. These WDRs combine information from Order No. 92-215, amendments made by Order No. 93-200, and the Report of Waste Discharge dated 19 April 1996.
2. The landfill facility is at 8635 Fruitridge Road in Section 24, T8N, R5E, MDB&M, and Section 24, T8N, R6E, MDB&M, as shown on Attachment "A" which is incorporated herein and made part of this Order. The facility consists of an existing landfill (LF-1), a proposed landfill expansion (LF-2) and equipment staging, recycling, soil borrow and clean soil storage areas to the north of LF-2. LF-1 consists of a 49-acre east pit and a 43-acre west pit. LF-1 is comprised of Assessor's Parcel Numbers 061-180-007 and the southern portions of 061-180-024, 061-180-016, and 061-180-004.
3. The proposed 65-acre landfill expansion (LF-2) is comprised of the northern portions of Assessor's Parcel Numbers 061-180-024, 061-180-016, and 061-180-004, the southern portions of 061-180-017, 061-180-025, and 061-180-003, and all of 016-180-15, all lying north of and contiguous with the existing landfill. LF-1 and the proposed LF-2 are shown on Attachment "B" which is incorporated herein and made part of this Order.

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WASTES AND THEIR CLASSIFICATION

4. The Discharger proposes to continue to discharge "nonhazardous solid wastes" in the limited Class III Landfill. The landfill accepts only demolition and construction wastes, concrete, asphalt and dirt, non friable asbestos, tree and garden trimmings, wood and paper, and other non-hazardous solid waste from Sacramento and the surrounding area. These wastes are classified as 'nonhazardous solid waste' or 'inert waste' using the criteria set forth in Chapter 15. The maximum discharge rate will be 10,000 cubic yards of waste per day.

DESCRIPTION OF THE SITE

5. The land surrounding the landfill is a flat plain sloping 6 to 8 feet per thousand feet toward the west. Morrison Creek, one-half mile south of the landfill, is the major natural topographic feature in its vicinity. Most topographic features within the landfill area are man-made, the most common being extensive 40 foot deep, straight-sided gravel extraction pits. The landfill occupies a portion of one such pit.
6. In the East Pit area, surface water drainage is directed to an "agricultural" pond to the immediate north and subsequently to additional ponds in the expansion area which will be built as needed. These ponds store rainfall collected from the proposed 65 acre expansion area and an additional 40 acres of land off-site to the north. There has been no known surface water discharge from the site.
7. Land within 1000 feet of the facility is used for commercial, agricultural, and industrial purposes.
8. The site is underlain by the Victor Formation, which consists of sands, silts, and clay with lenses of gravel and hardpan.
9. There are two water bearing zones immediately below the landfill, referred to as the shallow aquifer and the deeper aquifer. The highest groundwater recorded in the shallow unconfined aquifer in the vicinity of LF-2 is - 20.75 feet City of Sacramento Datum (CSD). The shallow aquifer is separated from the deeper aquifer by at least 15 feet of less permeable silt and clay or siltstone. Water in the deeper aquifer (30 to 40 feet below the water table) is chemically distinct from water in the shallow aquifer. Downgradient monitoring wells 2A, 4, 5, 7, and 10 and upgradient monitoring wells No. 12 and 13 are

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completed in the shallow aquifer. Downgradient wells 8, 9, and 11 are completed in the deeper aquifer. An upgradient background well should be completed in the deeper aquifer. The hydraulic gradient is 2.4 feet per 1000 feet south southwest.

10. The beneficial uses of ground water are domestic, municipal, agricultural, and industrial supply.
11. The facility receives an average of 18 inches of precipitation per year as read from a regional Mean Annual Precipitation isopleth map. The mean evaporation for this facility is 46.1 inches per year as read from an Annual Evaporative Demand isopleth map. Based on these data, the average annual net evaporation at the facility is approximately 28.1 inches.
12. The 100-year, 24-hour precipitation event for the facility is 4.1 inches, as calculated by the Pearson Type III distribution.
13. The facility is not within a 100-year floodplain.
14. Surface drainage is diverted to percolation ponds on site.
15. There are no known Holocene faults underlying or in close proximity to the landfill.

OPERATION OF FACILITIES

16. Current site operations consist of the area fill method of landfilling. At the active face, waste is deposited into a cell about 100' x 100' x 5' deep and is spread and compacted with cover material excavated from a portion of the site. The total remaining capacity of this landfill is 8 million cubic yards. Based upon current filling rates and patterns, it is estimated that the site will reach capacity by 2018.
17. The Discharger does not accept putrescible household waste.
18. The Discharger is currently separating and recycling wood, concrete, and metals from incoming waste loads at the working face.

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WASTE MANAGEMENT UNIT DESIGN

19. The easternmost 4.6 acres of LF-1 are lined with a one foot thick compacted native soil barrier on the bottom of the disposal area with a permeability of less than 1×10^{-6} cm/sec which is overlain by a dendritic leachate collection and recovery system. A 60-mil high density polyethylene (HDPE) synthetic liner has been placed on the sidewalls of this disposal area.
20. The Discharger proposes an engineered alternative to Chapter 15 construction standards for LF-2. The engineered alternative for the proposed floor areas consists of a composite liner, described from bottom to top, as follows: a graded foundation layer, a geosynthetic clay liner (or a two foot compacted clay liner with a maximum hydraulic conductivity of 1×10^{-7} cm/sec), a primary liner consisting of a 60-mil HDPE geomembrane, a leachate collection and recovery system (LCRS) comprised of 6-inches of gravel, a geotextile filter and 12-inches of operations layer soil or select wastes as approved by the Executive Officer. The liner in each landfill unit will be sloped at a minimum of one percent with HDPE collection pipes at 0.5 percent to convey leachate to the sumps. This new design would provide equivalent protection of beneficial uses of ground water from the discharge of non-hazardous solid and inert wastes to LF-2 during operation, closure, and the post-closure maintenance periods.
21. The Discharger also proposes an engineered alternative for east, north and west side-slopes. The alternative consists of a composite liner, described from bottom to top, as follows: foundation layer, a primary liner consisting of a textured 80-mil HDPE geomembrane, and 24-inches of operations soil.
22. The Discharger also proposes an engineered alternative to the prescriptive standard required by Section 2530 (c) which requires that the discharge of waste shall be at a minimum of 5 feet above the highest anticipated elevation of underlying ground water. The engineered alternative for floor areas where there is less than the minimum 5 feet of separation between waste and leachate and underlying groundwater consists of a composite liner, described from bottom to top, as follows: graded foundation layer, 6 inches of gravel (used to maintain capillary break and placed at or above the highest recorded groundwater level), 6 inches of compacted native soil, a geosynthetic clay liner, a primary liner consisting of a 60-mil HDPE geomembrane, a leachate collection and recovery system (LCRS) comprised of six inches of gravel, a geotextile filter, and 12 inches of operations soil layer or select waste materials as approved by the Executive Officer. An additional 60-mil geomembrane will also be used beneath the LCRS sump and the leachate collection

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main to provide additional water quality protection. Under the LCRS sump the engineered alternative will maintain a minimum of 4 feet of separation between solid wastes and the capillary break and a minimum of one and one half feet of separation between the capillary break and the bottom of the LCRS sump. In non-sump areas a minimum of 4 feet of separation will be maintained between solid wastes and the highest anticipated elevation of free ground water.

CORRECTIVE ACTION PLAN

23. Results of ground water monitoring indicate that shallow ground water has been impacted by landfill operations. Various organic compounds were identified in downgradient monitoring wells. Trichloroethane (TCE); tetrachloroethane (PCE); 1,1-dichloroethane; 1,2-dichloroethene (cis/trans); and vinyl chloride were detected in the shallow aquifer. Downgradient wells in the shallow aquifer zones also have higher TDS (800-900 mg/l) than the upgradient wells. One round of sampling detected approximately 2 ppb total of volatile organics in the deeper aquifer versus 80 ppb total of volatile organics in the shallow aquifer. Subsequent tests have been negative for these compounds.
24. The Discharger has implemented a Corrective Action Plan (CAP) pursuant to Chapter 15, Article 5 requirements to address the contamination problem. Four downgradient monitoring wells (2A, 4, 7, and 10) in the shallow aquifer are used as extraction wells and established as the compliance points. Extracted ground water is sent to an air stripping system. The extraction/stripping system went into operation on September 15, 1993. The system is designed to treat approximately 16 gallons per minute. After passing through the treatment system the treated water is discharged into a 10,000 gallon tank pending on-site reuse for dust control. In the event that site operations can not use all of the treated water, an overflow system diverts excess water from the storage tank into the agricultural pond for percolation. The system has been plumbed to accommodate gas condensate from the perimeter methane control project.
25. The southerly limit of the volatile organic compound plume has not been defined. These WDRs require further definition to the south.

CERTIFICATION

26. A registered civil engineer will certify that all WMUs at this facility meet the prescriptive standards and performance goals of Chapter 15, including but not limited to siting, design

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of liners, LCRSs, precipitation and drainage controls, covers, caps, and considerations of seismic and flood safety.

CEQA CONSIDERATIONS

27. Sacramento County has adopted a mitigated Negative Declaration on 25 April 1996 for the proposed project, in accordance with the provisions of the California Environmental Quality Act, (Public Resources Code, Section 21000, et seq.). A potential environmental impact identified is the degradation of surface water quality due to storm water runoff from the landfill units. This potential impact is mitigated by site grading design such that surface water drainage is contained on-site and conveyed to on-site retention ponds. The Board has reviewed and concurs with this mitigation measure.

OTHER LEGAL REFERENCES

28. The LF-2 expansion is proposed in an area which was used as a gravel extraction site. Section 66758, Chapter 1, Title 7.3 of the Government Code states that construction of a new landfill or lateral expansion of an existing facility in gravel extraction areas are prohibited unless the Regional Board finds that discharges to a new facility or expansion of an existing facility during its operation and postclosure period will not pollute or threaten to pollute the waters of the state.
29. The Discharger submitted a report dated 19 April 1996, with supplemental information on 16 May 1996, requesting the Board to grant a variance from the provisions of Section 66758 of the Government Code.
30. The Discharger's information shows that historical discharges to the landfill consisted of:

Construction and demolition wastes	67.5%
Paper wastes	12.4%
Concrete, dirt and asphalt	9.9%
Tree and garden trimmings	8.2%
Miscellaneous	2.0%

Construction/demolition wastes, paper wastes, concrete, dirt and asphalt are all classified as inert wastes. These inert wastes represent 89.8% of the waste stream. The percentage of tree and garden trimmings will be declining in the future due to increased recycling efforts resulting from the requirements of AB 939.

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31. The expansion area liner proposed by the Discharger is a composite liner of the type normally used to contain municipal solid wastes.
32. The Board finds that the Discharger's information demonstrates that the expansion will not, during its operation and postclosure period, pollute or threaten to pollute the waters of the state. Therefore, the Board grants the Discharger's request for a variance from the provision of Section 66758 of the Government Code.
33. On 9 October 1991, the United States Environmental Protection Agency (EPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, "federal MSW regulations" or "Subtitle D") that apply in California to dischargers who own or operate landfill units at which municipal solid waste (MSW) is discharged. The majority of the federal MSW regulations became effective on the "Federal Deadline" of 9 October 1993.
34. This order implements the Water Quality Control Plan for the Sacramento River Basin, Third Edition.
35. This order implements the prescriptive standards and performance goals of Chapter 15, Division 3, Title 23 of the California Code of Regulations, effective 27 November 1984, and subsequent revisions.
36. This order implements the State Water Resources Control Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste, adopted 17 June 1993.

PROCEDURAL REQUIREMENTS

37. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
38. The Board has notified the Discharger and interested agencies and persons of its intention to revise the WDRs for this facility.
39. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

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IT IS HEREBY ORDERED that Order No. 92-215 is rescinded and Attachment 1 of Order 93-200 is amended to delete the L and D Landfill Co., and it is further ordered that L and D Landfill Limited Partnership and its agents, assigns and successors, in order to meet the provisions contained in Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' at this site is prohibited. For the purposes of this Order, 'hazardous waste' and 'designated waste' are as defined in Chapter 15.
2. The discharge of putrescible household waste is prohibited.
3. Discharges of waste to either a landfill unit that has not received wastes or to a lateral expansion of a landfill unit are prohibited, unless the discharge is to an area equipped with a containment system which meets requirements in **B. Specifications**, below.
4. The discharge to landfill units of liquid or semi-solid waste (i.e., waste containing less than 50% solids), as provided in Section 2523(c) of Chapter 15, is prohibited.
5. The discharge to landfill modules of solid waste containing free liquid or moisture in excess of the waste's moisture holding capacity is prohibited.
6. The discharge of containerized liquids at this facility is prohibited.
7. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or to ground water is prohibited.
8. The discharge of waste to ponded water from any source is prohibited.
9. The discharge of waste within 50 feet of surface waters not related to landfill drainage structures is prohibited.
10. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

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- a. require a higher level of containment than provided by the unit;
- b. are restricted 'hazardous wastes'; or
- c. impair the integrity of containment structures,

is prohibited.

B. DISCHARGE SPECIFICATIONS

General Specifications

1. Wastes shall only be discharged into, and shall be confined to, the landfill modules specifically designed for their containment.
2. Waste accepted at the landfill shall be limited to demolition and construction wastes, concrete, asphalt and dirt, non-friable asbestos, tree and garden trimmings, wood and paper and other non-hazardous solid waste.
3. Wastes shall not be discharged below an elevation of -16.75 CSD.
4. All wells within 500 feet of the landfill shall be sealed or abandoned to the satisfaction of the Sacramento County Environmental Health Department prior to the discharge of waste to the landfill. A record of the sealing and/or abandonment of such wells shall be sent to the Board and to the State Department of Water Resources.
5. Leachate generation by a landfill unit LCRS shall not exceed 85% of the design capacity of the sump pump. If leachate generation exceeds this value or if the depth of fluid in an LCRS exceeds the minimum needed for pump operations, then the Discharger shall immediately cease the discharge of sludges and other high-moisture wastes to the landfill unit and shall notify the Board in writing within seven days. Notification shall include a timetable for remedial or corrective action necessary to reduce leachate production.
6. Neither the treatment nor the discharge of wastes shall cause a pollution or nuisance as defined by the California Water Code, Section 13050.

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General Waste Management Unit Construction

7. Clay liners shall have a hydraulic conductivity of 10^{-7} cm/s or less. Clay barrier layers in covers shall have a hydraulic conductivity of 10^{-6} cm/s or less and a minimum relative compaction of 90%. Hydraulic conductivities of liner materials shall be determined by laboratory tests using solutions with similar properties as the fluids that will be contained. Hydraulic conductivities of cover materials shall be determined by laboratory tests using water. Hydraulic conductivities determined through laboratory methods shall be confirmed by field testing in accordance with the Standard Provisions and Reporting Requirements as described in Provision D.1.
8. LCRSs shall be designed, constructed and maintained to collect twice the anticipated daily volume of leachate generated by the landfill and to prevent the buildup of hydraulic head on the underlying natural geologic materials of low hydraulic conductivity. The depth of fluid in any LCRS sump shall be maintained as low as feasible and no greater than the minimum needed for safe pump operation.
9. Each landfill unit phase constructed after the effective date of this Order shall be designed and constructed in accordance with Chapter 15 and this Order and approved by Board staff prior to operation. Prior to the beginning of construction for each new construction phase, a Final Design Report shall be submitted to the Board for review and approval and shall include, but not be limited to, the engineered design plans, the contract specifications, a construction quality assurance (CQA) plan to verify that construction specifications will be met, and a revised water quality monitoring plan. Approval of the final design report shall be obtained from Board staff prior to construction of the landfill liner or cover. A final construction report shall be submitted for approval by Board staff after each phase of construction and prior to the discharge of waste into the constructed phase. The final construction report shall include, but not be limited to, as-built plans, a CQA report with a written summary of the CQA program and all test results, analyses, and copies of the inspector's original field notes, and a certification as described in the Standard Provisions and Reporting Requirements.

Landfill Specifications

10. Wastes shall be discharged to either (1) that portion of a module which received wastes (i.e. that active portion of the module which is within the boundaries of the Existing Footprint), or (2) to an area equipped with a containment system which

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meets the additional requirements for both liners and leachate collection systems specified below.

11. All liner systems installed after 9 October 1993 shall either: (1) include a composite liner which consists of an upper synthetic flexible membrane component (synthetic liner or SL) and a lower component of soil. The SL shall be at least 40-mils thick (or at least 60-mils thick if high density polyethylene) and shall be installed in direct and uniform contact with the underlying compacted soil component.
12. Each landfill waste management unit constructed after the date of this Order shall have a base liner described, from bottom to top, as follows: a prepared subgrade, a geosynthetic clay liner (or two feet of soil compacted to a maximum hydraulic conductivity of 1×10^{-7} cm/sec), a 60-mil thick HDPE geomembrane, a LCRS consisting of a layer of 6-inches of gravel with a minimum hydraulic conductivity of 1 cm/sec, a geotextile filter, and 12-inches of operations soil or select waste as approved by the Executive Officer. The liner in each landfill unit shall be sloped at a minimum of one percent with HDPE collection pipes at 0.5 percent to convey leachate to the sumps.
13. Beneath liner floor areas where there is less than the minimum 5 feet separation between waste and leachate and underlying groundwater, the liner shall also contain an additional 6 inches of gravel at the bottom of the liner system to maintain a capillary break. Also, an additional 60-mil geomembrane shall be used beneath the LCRS sump and the leachate collection main to provide additional water quality protection.
14. Landfill side-slopes on the north, east and west sides of LF-2 shall have a liner, described from outside to inside, as follows: compacted general fill embankment forming the prepared subgrade, an 80-mil thick textured HDPE geomembrane liner and a 24-inch thick operations layer.

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15. LF-2 shall be constructed to provide a minimum separation of four feet between solid wastes and the capillary break in the sump area. In non-sump areas a minimum of 4 feet shall be maintained between solid waste and the highest anticipated elevation to free ground water.
16. New landfill units and lateral expansions shall not be located in wetlands unless the Discharger has successfully completed, and the Board has approved, all demonstrations required for such discharge under 40 CFR 258.12(a).
17. Landfill leachate shall be disposed of by a Board approved method.

Landfill Closure Specifications

18. At closure, the unlined modules in LF-1 shall receive a final cover consisting, at a minimum, of a two-foot thick foundation layer which may contain waste materials, overlain by a one-foot thick compacted clay liner with a permeability less than 1×10^{-6} cm/sec (a geosynthetic clay liner may be substituted for the one foot clay liner), and finally by a one-foot thick vegetative soil layer. For the side slopes, six inches of coarse aggregate may be substituted for the one foot vegetative layer. LF-2 shall receive a cover consisting of a two-foot thick foundation layer which may contain wastes, a geosynthetic clay liner or one foot of compacted clay (permeability less than 1×10^{-6} cm/sec), a 60 mil HDPE membrane and one foot of vegetative soil cover. For the side slopes six inches of coarse aggregate may be substituted for the membrane and the vegetative cover.
19. Vegetation shall be planted and maintained over each closed landfill unit. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness. Side slopes may be covered with coarse aggregate which provides resistance to erosion and protection for the liner which is equivalent or better than that provided by a one foot vegetative layer.
20. Closed landfill units shall be graded to at least a three percent grade and maintained to prevent ponding.

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Protection From Storm Events

21. Precipitation and drainage control systems shall be designed, constructed and maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour precipitation conditions.
22. Waste management units shall be designed, constructed and operated in compliance with precipitation and flood conditions contained in the Standard Provisions and Reporting Requirements referenced in Provision D.1, below.
23. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site and to prevent surface drainage from contacting or percolating through wastes.

C. RECEIVING WATER LIMITATIONS

Water Quality Protection Standards

The concentrations of Constituents of Concern in waters passing through the Points of Compliance shall not exceed the Concentration Limits established pursuant to Monitoring and Reporting Program No. 96-177, which is attached to and made part of this Order.

D. PROVISIONS

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated September 1993, which are hereby incorporated into this Order. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the Standard Provisions and Reporting Requirements is a violation of these waste discharge requirements.
2. The Discharger shall comply with all applicable provisions of 23 CCR Chapter 15 and 40 CFR Part 258 that are not specifically referred to in this Order.

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3. The Discharger shall comply with Monitoring and Reporting Program No. 96-177, which is attached to and made part of this Order. This compliance includes, but is not limited to, maintenance of waste containment facilities and precipitation and drainage controls and monitoring ground water, leachate from the landfill units, the vadose zone and surface waters, throughout the active life of the waste management units and the post-closure maintenance period. A violation of Monitoring and Reporting Program No. 96-177 is a violation of these waste discharge requirements.
4. The Discharger has implemented a corrective action program in accordance Section 2550.10 of Chapter 15 to remediate releases from the landfill and shall define the plume offsite to the south. In conjunction with the corrective action program, the Discharger shall establish and implement a water quality monitoring program which demonstrates the effectiveness of the corrective action. The Discharger shall construct an upgradient background well for the lower water bearing zones.
5. The Discharger shall maintain legible records of the volume and type of each waste discharged at each WMU and the manner and location of the discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.
6. The Discharger shall provide proof to the Board **within sixty days after completing final closure** that the deed to the landfill facility property, or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that:
 - a. the parcel has been used as a municipal solid waste landfill (MSWLF);
 - b. land use options for the parcel are restricted in accordance with the post-closure land uses set forth in the post-closure plan and in WDRs for the landfill; and
 - c. in the event that the Discharger defaults on carrying out either the post-closure maintenance plan or any corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.

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7. The post-closure maintenance period shall continue until the Board determines that remaining wastes in all landfill units will not threaten water quality.
8. The Board will review this Order periodically and may revise requirements when necessary.
9. The Discharger shall complete the tasks outlined in these WDRs and the attached Monitoring and Reporting Program No. 96-177 in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
a) Submit concentration limits for the constituents listed in the Monitoring and Reporting Program No. 96-177	1 September 1997
b) Submit a proposal to define the horizontal extent of the contamination plume	1 March 1997
c) Install additional wells to define the extent of the contamination plume	1 October 1997
d) Report to the Board on extent of contamination	1 April 1998

E. REPORTING REQUIREMENTS

1. The Discharger shall comply with the reporting requirements specified in this Order, in Monitoring and Reporting Program Order No. 96-177 and in the Standard Provisions and Reporting Requirements.
2. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the landfills. In the event of any change in ownership, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.
3. The Discharger shall submit a status report regarding the financial assurances for corrective action and closure every five years after the date of adoption of these

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4. The method used to close each module at the facility and maintain protection of the quality of surface and ground waters shall comply with waste discharge requirements established by the Board.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 21 June 1996.



WILLIAM H. CROOKS, Executive Officer

Attachments
Amended 21 June 1996
PWM/nmc

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 96-177

MONITORING AND REPORTING PROGRAM
FOR
L AND D LANDFILL LIMITED PARTNERSHIP
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The Discharger shall maintain water quality monitoring systems which are appropriate for detection monitoring and corrective action and that comply with the provisions of Title 23, California Code of Regulations (CCR), Division 3, Chapter 15, Article 5.

A verification monitoring program confirmed VOC contamination in the existing monitoring network. A Corrective Action Program was approved by the Board for a groundwater extraction and treatment system to remediate volatile organic compounds detected in ground water beneath the landfill. Pumped ground water is treated by passing it through an air stripper with carbon adsorption. The system is designed to treat approximately 20 gallons per minute. After passing through the treatment system the treated water discharges into a 10,000 gallon tank pending on-site reuse for dust control. In the event that site operations can not use all of the treated water, an overflow system diverts excess water from the storage tank into the agricultural pond for evaporation and percolation.

Compliance with this Monitoring and Reporting Program, and with the companion Standard Provisions and Reporting Requirements, is ordered by Waste Discharge Requirements Order No.96-177. Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements, constitutes noncompliance with the Waste Discharge Requirements (WDR) and with the Water Code, which can result in the imposition of civil monetary liability.

A. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the WDRs. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. A short discussion of the monitoring results, including notations of any water quality violations, shall precede the tabular summaries.

Field and laboratory tests shall be reported in the monitoring reports. Monitoring reports shall be submitted to the Board by the **15th day** of the month following the calendar quarter in which the samples were taken. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board. An annual report shall be submitted to the Board by **30 January** which contains both tabular and graphical summaries of the monitoring data obtained during the previous twelve months, so as to show historical trends at each well. The report shall include a discussion of the progress toward re-establishment of compliance with waste discharge requirements and water quality protection standard.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified. Metals shall be analyzed according to the method listed in Attachment D.

B. REQUIRED MONITORING REPORTS

1. Water Quality Protection Standard Report

The Discharger submitted a water quality protection standard in the "*Report of Waste Discharge*" dated 19 April 1996. Any changes to the water quality protection standard shall be described in the annual monitoring report.

2. Detection Monitoring and Corrective Action Program

The Discharger shall submit reports of the results of detection monitoring and corrective action in accordance with the schedules specified in this Monitoring and Reporting Program. Unless otherwise required, **monitoring reports shall be submitted to the Board by the 15th day** of the month following the calendar quarter in which the samples were taken or observations made. The Discharger shall report, at least semi-annually, in writing, to the regional board on the effectiveness of the corrective action program.

3. Annual Monitoring Summary Report

The Discharger shall submit the Annual Monitoring Summary Report as specified in the Standard Provisions and Reporting Requirements.

4. Constituents-of-Concern (COC) 5 Year Report

In the absence of a *new* release, the Discharger shall submit reports of the results of ground water detection monitoring for the Constituents of Concern every 5 years, or more frequently if required under the evaluation monitoring program. The ground water detection monitoring for the COC Report shall alternate between the Fall and Spring seasons. The COC Report may be combined with a Detection Monitoring and Corrective Action Report or an Annual Summary Report having a Reporting Period that ends at the same time.

Standard Observations

Each monitoring report shall include a summary and certification of completion of all Standard Observations for the waste management unit, for the perimeter of the WMU, and for the receiving waters. The standard observations shall be performed on a weekly basis and shall include those elements as defined in the Standard Provisions and Reporting Requirements.

C. MONITORING

If the Discharger, through a detection monitoring program, or the Board finds that there is a statistically significant increase in indicator parameters or waste constituents over the water quality protection standards (established pursuant to Monitoring and Reporting Program No.96-177) at or beyond the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days, and shall immediately resample for the constituent(s) or parameter(s) at the point where the standard was exceeded. Within 90 days, the Discharger shall submit to the Board the results of the resampling and either:

- a. a report demonstrating that the water quality protection standard was not, in fact, exceeded;
or
- b. an amended Report of Waste Discharge for the establishment of a verification monitoring program, per Section 2557 of Chapter 15, which is designed to verify that water quality protection standards have been exceeded and to determine the horizontal and vertical extent of pollution.

If the Discharger, through an evaluation monitoring program, or the Board verifies that water quality protection standards have been exceeded at or beyond the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 180 days, the Discharger shall submit to the Board an amended Report of Waste

Discharge for the establishment of a corrective action program, per Section 2558 of Chapter 15, which is designed to achieve compliance with the water quality protection standards.

D. REQUIRED MONITORING PROGRAMS

1. Solid Waste Monitoring Program

Nonhazardous Solid Waste Monitoring

The Discharger shall monitor all wastes discharged to the Class III landfill modules on a monthly basis and report to the Board as follows:

<u>Parameter</u>	<u>Units</u>	<u>Reporting Frequency</u>
Quantity discharged	cubic yards or tons	Quarterly
Type of material discharged	---	Quarterly
Minimum elevation of discharge	feet & tenths MSL	Quarterly
Capacity of landfill/module remaining	percent	Annually

2. Detection Monitoring and Corrective Action Program

The Discharger shall collect and analyze all data necessary to assess the nature and extent of the release from the landfill. This assessment shall include a determination of the spatial distribution and concentration of each COC throughout the zone affected by the release. In conjunction with the assessment the discharger shall monitor ground water to evaluate changes in water quality resulting from the release. Based on the data collected the discharger shall evaluate the effectiveness of the corrective action program. The Discharger shall report, at least semi-annually, in writing, to the Regional Board on the effectiveness of the corrective action program.

For any given monitored medium, a sufficient number of samples shall be taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters (pH, temperature, electrical conductivity, turbidity) for that Monitoring Point or Background Monitoring Point. Ground water elevations

taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the ground water gradient/direction analyses required. For each monitored ground water body, the Discharger shall measure the water level in each well and determine ground water gradient and direction at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. Ground water elevations for all background and downgradient wells for a given ground water body shall be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude accurate determination of ground water gradient and direction. This information shall be included in the quarterly monitoring reports.

Statistical or non-statistical analysis should be performed as soon as the monitoring data are available.

3. Leachate Monitoring Program

The leachate monitoring network shall consist of the LCRS sump. Leachate from the leachate monitoring network shall be monitored according to the schedule in Table I. All landfill unit LCRS sumps shall be inspected monthly for leachate generation. Upon detection of leachate in a previously dry sump, the Discharger shall immediately sample the leachate and continue to sample and analyze the leachate for parameters and frequencies listed in Table I- Leachate Monitoring Program thereafter.

Leachate samples, from the leachate monitoring network, for COC detection will be collected annually in the fourth quarter of the year. If constituents are detected that are not already COC's, leachate will be resampled for those constituents only in the second quarter of the following year. If the COC is detected in the retest sample, it shall be added to the list of COC's in the ground water monitoring program, the surface water monitoring program, and the unsaturated zone program.

The LCRSs shall be tested annually to demonstrate that they are still operating in conformance with waste discharge requirements. The results of these tests shall be reported to the Board in the annual report and shall include comparison with earlier tests made under comparable conditions.

All visible portions of the synthetic liners shall be inspected on a monthly basis and their condition reported quarterly.

TABLE I - LEACHATE MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Total Flow	gallons	Monthly
Flow Rate	gallons/day	Monthly
Specific Conductance	μ mhos/cm	Quarterly
pH	number	Quarterly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/l	Quarterly
Chloride	mg/l	Quarterly
Sulfate	mg/l	Quarterly
Nitrate - Nitrogen	mg/l	Quarterly
Volatile Organic Compounds (EPA Method 8260, See Attachment C)	μ g/l	Quarterly
Constituents of Concern		
Total Organic Carbon	mg/l	5 years
Carbonate	mg/l	5 years
Bicarbonate	mg/l	5 years
Total Alkalinity	mg/l	5 years
Volatile Organic Compounds (EPA Method 8260, See Attachment D)	μ g/l	5 years
Semi-Volatile Organic Compounds (EPA Method 8270)	μ g/l	5 years
Organochlorine Pesticide, PCBs (EPA Method 8080)	μ g/l	5 years
Chlorophenoxy Herbicides (EPA Method 8150)	μ g/l	5 years
Organophosphorus Compounds (EPA Method 8141)	μ g/l	5 years
Inorganics (dissolved) (See Attachment D for Method)	mg/l	5 years

4. Ground Water Monitoring

Field and laboratory tests shall be reported in the monitoring reports. All "Monitoring Parameters" shall be graphed so as to show historical trends at each well.

The ground water surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the velocity and direction of ground water flow. This information shall be displayed on a water table contour map and/or ground water flow net for the site and submitted with the quarterly monitoring reports.

The background monitoring wells shall be MW-12 and MW-13 completed in the shallow aquifer with one new well to be completed in the deeper aquifer.

The detection monitoring network shall consist of downgradient monitoring wells MW-5 and MW-7 in the shallow aquifer and downgradient monitoring wells MW-8, MW-9, and MW-11 in the deeper aquifer. The corrective action monitoring wells shall be the extraction wells MW-2A, MW-4, MW-7, and MW-10 as well as impacted well MW-5. Locations of these wells are shown on Attachment B attached hereto and made a part hereof. Ground water samples shall be collected from all wells at the frequencies and analyzed for the parameters specified in Table II. Background wells may be sampled and analyzed on a semiannual basis.

TABLE II - GROUND WATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Temperature	°C	Quarterly
Ground Water Elevation	Ft. & hundredths, MSL	Quarterly
Specific Conductance	μ mhos/cm	Quarterly
pH	Number	Quarterly
Turbidity	Turbidity units	Quarterly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/l	Quarterly
Chloride	mg/l	Quarterly
Sulfate	mg/l	Quarterly
Nitrate - Nitrogen	mg/l	Quarterly
Volatile Organic Compounds (EPA Method 8260, See Attachment C)	μ g/l	Quarterly
Constituents of Concern		
Total Organic Carbon*	mg/l	5 years
Carbonate*	mg/l	5 years
Bicarbonate*	mg/l	5 years
Total Alkalinity*	mg/l	5 years
Volatile Organic Compounds (EPA Method 8260, See Attachment D)	μ g/l	5 years
Semi-Volatile Organic Compounds (EPA Method 8270)	μ g/l	5 years
Organochlorine Pesticide, PCBs (EPA Method 8080)	μ g/l	5 years
Chlorophenoxy Herbicides (EPA Method 8150)	μ g/l	5 years
Organophosphorus Compounds (EPA Method 8141)	μ g/l	5 years
Inorganics (dissolved)* (See Attachment D for Method)	mg/l	5 years

* To be monitored quarterly for one year to determine a concentration limit.

5. Unsaturated Zone Monitoring

Unsaturated zone monitoring shall be incorporated into any expansion of the footprint after 9 October 1993. All vadose zone monitoring points shall be analyzed for the parameters and at the frequency in Table III below.

Unsaturated zone monitoring reports shall be submitted with the corresponding semi-annual ground water monitoring and shall include evaluation of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

TABLE III - UNSATURATED ZONE MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Specific Conductance	μ mhos/cm	Semi-annually
pH	number	Semi-annually
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/l	Semi-annually
Chloride	mg/l	Semi-annually
Sulfate	mg/l	Semi-annually
Nitrate - Nitrogen	mg/l	Semi-annually
Constituents of Concern		
Total Organic Carbon	mg/l	5 years
Carbonate	mg/l	5 years
Bicarbonate	mg/l	5 years
Total Alkalinity	mg/l	5 years
Volatile Organic Compounds (EPA Method 8260)	μ g/l	5 years
Inorganics (totals) (See Attachment D for Method)	mg/l	5 years

E. WATER QUALITY PROTECTION STANDARD

The Water Quality Protection Standard (Standard) consists of the following elements:

Constituents of Concern;
Concentration Limits;
Monitoring Points;
Points of Compliance; and
Compliance Period.

Each of these is described as follows:

1. Constituents of Concern

The 'COC list' (list of Constituents of Concern required under 23 CCR 2550.3) shall include all constituents listed in Tables I, II, and III (above), the Waste Discharge Requirements Order No. 96-177 and all constituents listed in Attachment D. The Constituents of Concern shall be for water-bearing media (i.e., ground water and surface water). The Discharger shall monitor all COCs every five years under the detection monitoring program, or more frequently as required under evaluation monitoring. For each monitoring period, the Discharger shall determine whether there is statistically significant evidence of a release from the landfill and whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in Section 2550.7 of Chapter 15.

2. Concentration Limits

The Concentration Limit for any given Constituent of Concern or Monitoring Parameter in a given monitored medium (i.e., the uppermost aquifer) at a landfill shall be as follows, and shall be used as the basis of comparison with data from the Monitoring Points in that monitored medium:

- a. The background value established in the Monitoring and Reporting Program for that constituent and medium;
- b. The constituent's background value, established anew during each Reporting Period using only data from all samples collected during that Reporting Period from the Background Monitoring Points for that monitored medium. Either:

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- i. The mean (or median, as appropriate) and standard deviation (or other measure of central tendency, as appropriate) of the constituent's background data; or
- ii. The constituent's MDL, in cases where less than 10% of the background samples exceed the constituent's MDL; or
- c. A concentration limit greater than background, as approved by the Board for use during or after corrective action.

The concentration limits proposed for downgradient monitoring wells are based on the concentrations measured in the background wells MW-12 and MW-13. The concentration limits for VOCs shall be "non-detectable".

Concentration limits for ground water are shown in the following table:

GROUND WATER CONCENTRATION LIMITS

<u>Constituent</u>	<u>Units</u>	<u>Limit</u>
Specific Conductance (EC)	µmhos/cm	--
pH	pH Number	--
Total Dissolved Solids (TDS)	mg/l	--
Alkalinity, Bicarbonate	mg/l	--
Chloride	mg/l	--
Sulfate	mg/l	--
Nitrate as N	mg/l	--
Total Organic Carbon	mg/l	--
Carbonate	mg/l	--
VOCs (EPA 8260 and 8270)	mg/l	Non Detect
Organochlorine Pesticide, PCB (EPA 8080)	mg/l	Non Detect
Chlorophenoxy Herbicides (EPA 8150)	mg/l	Non Detect
Organophosphorus Compounds (EPA 8141)	mg/l	Non Detect
Aluminum, dissolved	mg/l	--
Antimony, dissolved	mg/l	--
Arsenic, dissolved	mg/l	--
Barium, dissolved	mg/l	--
Beryllium, dissolved	mg/l	--
Cadmium, dissolved	mg/l	--
Calcium, dissolved	mg/l	--
Chromium, dissolved	mg/l	--
Cobalt, dissolved	mg/l	--
Copper, dissolved	mg/l	--
Cyanide, dissolved	mg/l	--
Iron, dissolved	mg/l	--
Lead, dissolved	mg/l	--
Magnesium, dissolved	mg/l	--
Manganese, dissolved	mg/l	--
Nickel, dissolved	mg/l	--
Potassium, dissolved	mg/l	--
Selenium, dissolved	mg/l	--
Silver, dissolved	mg/l	--
Sodium, dissolved	mg/l	--
Sulfide, dissolved	mg/l	--
Thallium, dissolved	mg/l	--
Tin, dissolved	mg/l	--
Vanadium, dissolved	mg/l	--
Zinc, dissolved	mg/l	--

* To be monitored quarterly for 1-year in order to determine a concentration limit.

3. Monitoring Points

Monitoring Points (including background) for ground water detection monitoring and corrective action shall be those listed in this Monitoring and Reporting Program and shown on Attachment B.

Detection Monitoring: MW-5, MW-8, MW-9, MW-11, MW-12, and MW-13
Corrective Action: MW-2A, MW-4, MW-7, and MW-10

4. Points of Compliance

The Points of Compliance shall be those listed in this Monitoring and Reporting Program and shown on Attachment B.

Ground Water: MW-2A, MW-4, MW-5, MW-7, MW-8, MW-9, MW-10, and MW-11

5. Compliance Period

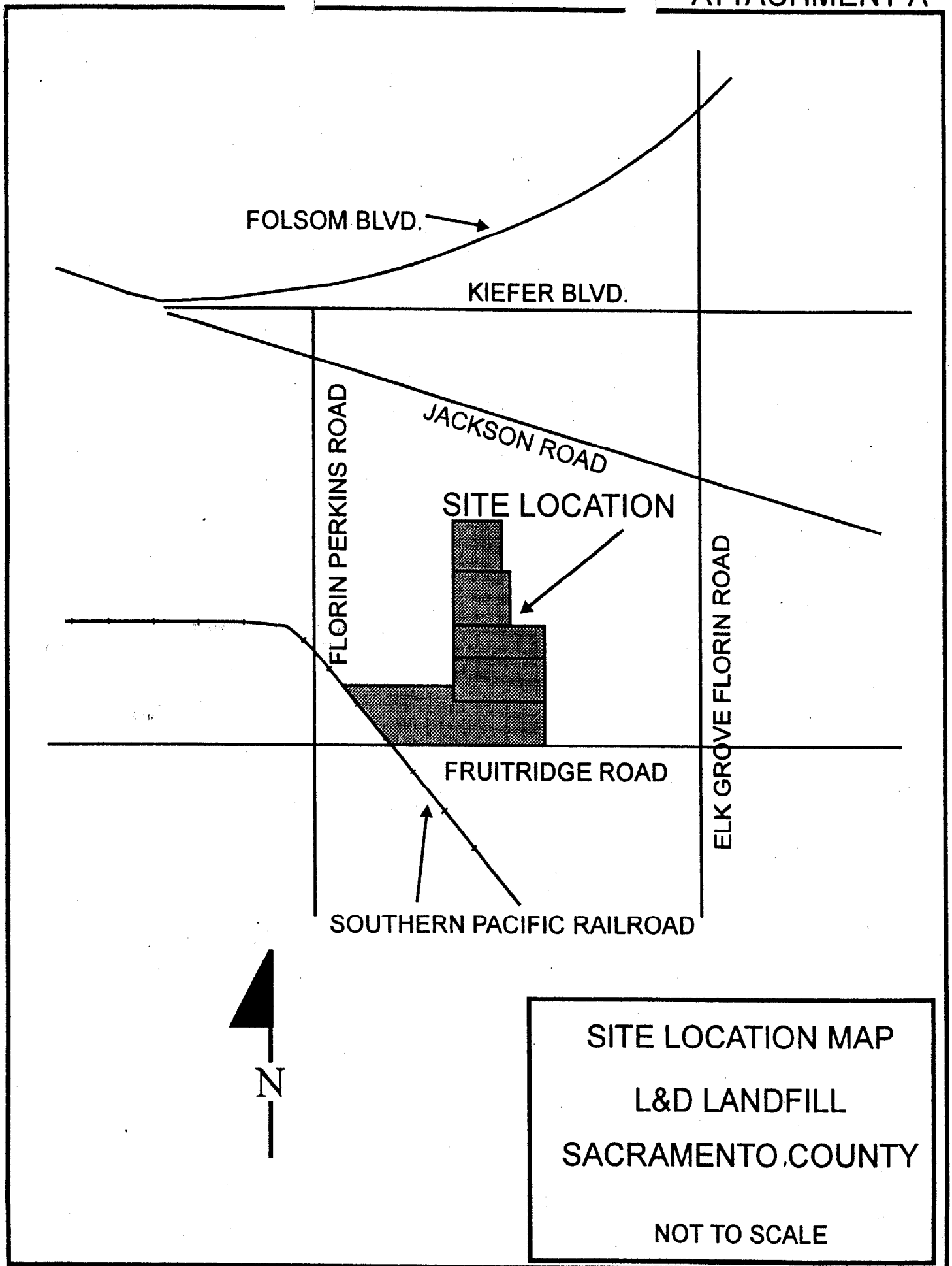
The Compliance period is the number of years equal to the active life of the landfill facility plus the closure period. Each time the Water Quality Protection Standard is exceeded (i.e., a release is discovered), the landfill begins a Compliance Period on the date the Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program (CAP) has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the MSWLF has been in continuous compliance for at least three consecutive years.

The Discharger shall implement the above monitoring program on the effective date of this Order.

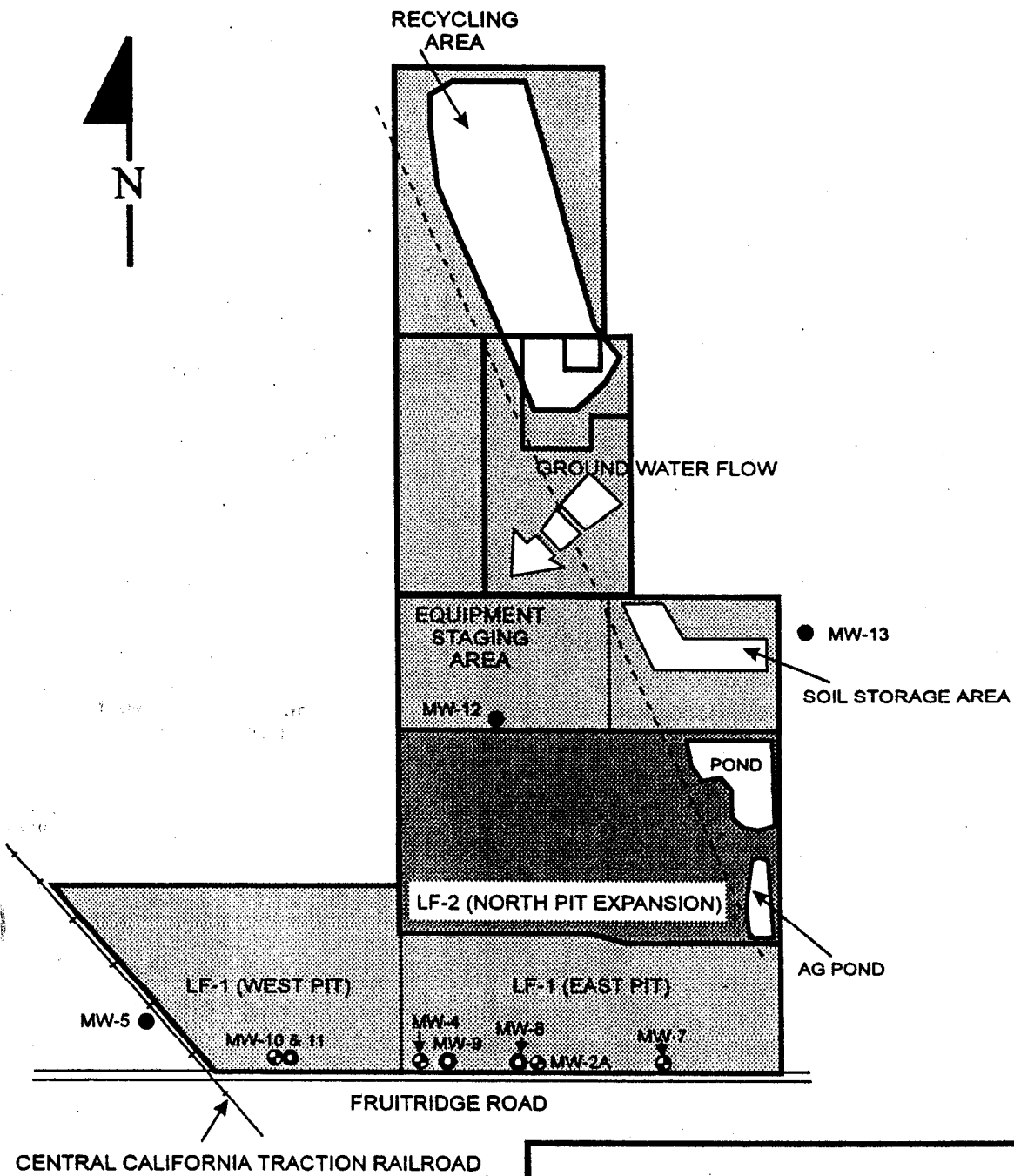
Ordered by: William H. Crooks
WILLIAM H. CROOKS, Executive Officer

21 June 1996
(Date)

Attachments
Amended 21 June 1996



ATTACHMENT B



LEGEND

- SHALLOW WELLS
- DEEP WELLS
- ⊕ EXTRACTION WELLS

FACILITY LAYOUT MAP
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NOT TO SCALE

WASTE DISCHARGE REQUIREMENTS
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LIMITED CLASS III LANDFILL
SACRAMENTO COUNTY

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Attachment C

MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Specific Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC_{water} (by USEPA Method 8260):

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1-Dichloroethylene (1,1-Dichloroethene; Vinylidene chloride)
cis-1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis-1,3-Dichloropropene

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Attachment C (continued)

trans-1,3-Dichloropropene
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
4-Methyl-2-pentanone (Methyl isobutylketone)
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC-11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

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Attachment D

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (by USEPA Method):

Aluminum	6010
Antimony	6010
Barium	6010
Beryllium	6010
Cadmium	6010
Chromium	6010
Chromium VI ¹	7197
Cobalt	6010
Copper	6010
Iron	6010
Manganese	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Arsenic	7061
Lead	7421
Mercury	7470
Nickel	7520
Selenium	7741
Thallium	7841
Cyanide	9010
Sulfide	9030

¹ Report all peaks identified by the EPA test methods. Ground water and leachate samples shall be analyzed and reported as dissolved. Surface water samples shall be analyzed and reported as total recoverable metals as specified in EPA-600/4-79-020 dated March 1993. Unsaturated zone water samples shall be analyzed and reported as totals.

Volatile Organics (USEPA Method 8260):

Acetone
Acetonitrile (Methyl cyanide) Acrolein
Acrylonitrile

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Attachment D (continued)

Allyl chloride (3-Chloropropene)
Benzene
Bis(2-ethylhexyl) phthalate
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1-Dichloroethylene (1,1-Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadiene
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Isodrin
Methacrylonitrile
Methyl bromide (Bromomethane)

WASTE DISCHARGE REQUIREMENTS
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Attachment D (continued)

Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semivolatile Organics (USEPA Method 8270 - base, neutral, & acid extractables):

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol

WASTE DISCHARGE REQUIREMENTS
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Attachment D (continued)

alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimethylphenol (m-Xylenol)

WASTE DISCHARGE REQUIREMENTS
L AND D LANDFILL LIMITED PARTNERSHIP
FRUITRIDGE ROAD LAND COMPANY
LIMITED CLASS III LANDFILL
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Attachment D (continued)

Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methacrylate
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
Naphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine

WASTE DISCHARGE REQUIREMENTS
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FRUITRIDGE ROAD LAND COMPANY
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Attachment D (continued)

o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butyl nitrosamine)
N-Nitrosodiethylamine (Diethyl nitrosamine)
N-Nitrosodimethylamine (Dimethyl nitrosamine)
N-Nitrosodiphenylamine (Diphenyl nitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propyl nitrosamine)
N-Nitrosomethylethylamine (Methylethyl nitrosamine)
N-Nitrosopiperidine
N-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

WASTE DISCHARGE REQUIREMENTS
L AND D LANDFILL LIMITED PARTNERSHIP
FRUITRIDGE ROAD LAND COMPANY
LIMITED CLASS III LANDFILL
SACRAMENTO COUNTY

Attachment D (continued)

Organophosphorus Compounds (USEPA Method 8141):

0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Dimethoate
Disulfoton
Methyl parathion (Parathion methyl)
Parathion
Phorate

Chlorinated Herbicides (USEPA Method 8150):

2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

INFORMATION SHEET

L AND D LANDFILL LIMITED PARTNERSHIP
FRUITRIDGE ROAD LAND CO.
LIMITED CLASS III LANDFILL
SACRAMENTO COUNTY

L and D Landfill Limited Partnership operates the Limited Class III landfill at 8635 Fruitridge Road in southeast Sacramento County. The site is an abandoned excavated gravel pit, owned by Fruitridge Road Land Co., formerly known as A. Teichert and Sons. The current operation serves as a disposal facility for demolition and construction waste, paper, tree and garden trimmings, and concrete and asphalt rubble. These requirements revise Order No. 92-215 to reflect the amendments made by Order No. 93-200 and new information from the Report of Waste Discharge dated 19 April 1996.

The results of SWAT investigations and a subsequent verification monitoring program have confirmed volatile organic contamination of the shallow aquifer (approximately 80 ppb of volatile priority pollutants). Although the levels of contamination detected were relatively low, five compounds exceeded the State Maximum Contaminant Levels. A single round of sampling detected approximately 2 ppb of volatile organics in the lower aquifer but subsequent tests have been negative for these compounds.

The discharger has implemented a corrective action plan pursuant to Chapter 15, Article 5 requirements to address the contamination problem. Four of the five downgradient monitoring wells in the shallow aquifer are being used as extraction wells and established as the compliance points. Ground water is treated by an air stripping unit to remove VOCs to achieve a "nondetectable" concentration level. Corrective action for the inorganic contamination will not be required at this time but continued detection monitoring will be required. Similarly, continued detection monitoring of the deeper aquifer will be required to ensure the adequacy of the corrective action program.

In a Report of Waste Discharge, the Discharger requested approval for an expansion of the landfill to include an additional 65 acres lying north of and contiguous to the existing landfill. These WDRs approve the requested expansion pursuant to Section 66758 of the Government Code (Mountjoy Legislation), among other considerations.

PWM/nmc
Amended 21 June 1996